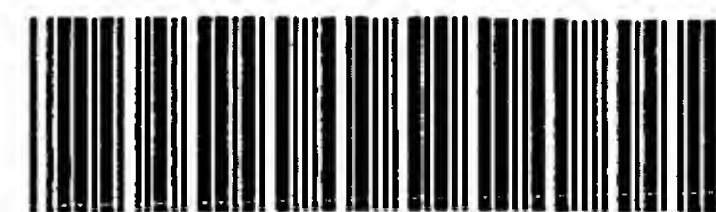


RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.

Application Serial Number: 10/594,064
Source: 1FWIP
Date Processed by STIC: 10/3/06

ENTERED



IFWP

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/594,064

DATE: 10/03/2006

TIME: 08:43:02

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Output Set: N:\CRF4\10032006\J594064.raw

4 <110> APPLICANT: Bryan, Janine T.
 5 Brownlow, Michelle K.
 6 Schultz, Loren D.
 7 Janse, Kathrin U.
 9 <120> TITLE OF INVENTION: OPTIMIZED EXPRESSION OF HPV 52 L1 IN
 10 YEAST
 12 <130> FILE REFERENCE: 21571P
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 C--> 14 <141> CURRENT FILING DATE: 2006-09-25
 14 <150> PRIOR APPLICATION NUMBER: PCT/US2005/009199
 15 <151> PRIOR FILING DATE: 2005-03-18
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 18 <151> PRIOR FILING DATE: 2004-03-24
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 35 agattgttga ctgtcgggtca cccatacttc tctatcaaga acacctctc cggtaacggt 180
 36 aagaagggtct tggttccaaa ggtctctggt ttgcaataca gagtcttcag aatcaagttg 240
 37 ccagacccaa acaagttcgg tttcccagac actagtttct acaaccaga aactcaaaga 300
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 52 caattgtgta agatcacctt gaccgctgac gtcattgact acatccacaa gatggacgct 1200
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56 gctgacttgg accaattccc attgggtaga aagttcttgt tgcaagctgg tttgcaagct 1440
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58 gtcaagagat aa 1512
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61 <211> LENGTH: 503
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63 <213> ORGANISM: Human papillomavirus type 52
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68 Pro Gly Ser Lys Val Val Ser Thr Asp Glu Tyr Val Ser Arg Thr Ser
69 20 25 30
70 Ile Tyr Tyr Tyr Ala Gly Ser Ser Arg Leu Leu Thr Val Gly His Pro
71 35 40 45
72 Tyr Phe Ser Ile Lys Asn Thr Ser Ser Gly Asn Gly Lys Lys Val Leu
73 50 55 60
74 Val Pro Lys Val Ser Gly Leu Gln Tyr Arg Val Phe Arg Ile Lys Leu
75 65 70 75 80
76 Pro Asp Pro Asn Lys Phe Gly Phe Pro Asp Thr Ser Phe Tyr Asn Pro
77 85 90 95
78 Glu Thr Gln Arg Leu Val Trp Ala Cys Thr Gly Leu Glu Ile Gly Arg
79 100 105 110
80 Gly Gln Pro Leu Gly Val Gly Ile Ser Gly His Pro Leu Leu Asn Lys
81 115 120 125
82 Phe Asp Asp Thr Glu Thr Ser Asn Lys Tyr Ala Gly Lys Pro Gly Ile
83 130 135 140
84 Asp Asn Arg Glu Cys Leu Ser Met Asp Tyr Lys Gln Thr Gln Leu Cys
85 145 150 155 160
86 Ile Leu Gly Cys Lys Pro Pro Ile Gly Glu His Trp Gly Lys Gly Thr
87 165 170 175
88 Pro Cys Asn Asn Asn Ser Gly Asn Pro Gly Asp Cys Pro Pro Leu Gln
89 180 185 190
90 Leu Ile Asn Ser Val Ile Gln Asp Gly Asp Met Val Asp Thr Gly Phe
91 195 200 205
92 Gly Cys Met Asp Phe Asn Thr Leu Gln Ala Ser Lys Ser Asp Val Pro
93 210 215 220
94 Ile Asp Ile Cys Ser Ser Val Cys Lys Tyr Pro Asp Tyr Leu Gln Met
95 225 230 235 240
96 Ala Ser Glu Pro Tyr Gly Asp Ser Leu Phe Phe Phe Leu Arg Arg Glu
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98 Gln Met Phe Val Arg His Phe Phe Asn Arg Ala Gly Thr Leu Gly Asp
99 260 265 270
100 Pro Val Pro Gly Asp Leu Tyr Ile Gln Gly Ser Asn Ser Gly Asn Thr
101 275 280 285
102 Ala Thr Val Gln Ser Ser Ala Phe Phe Pro Thr Pro Ser Gly Ser Met
103 290 295 300
104 Val Thr Ser Glu Ser Gln Leu Phe Asn Lys Pro Tyr Trp Leu Gln Arg

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RAW SEQUENCE LISTING

DATE: 10/03/2006

PATENT APPLICATION: US/10/594,064

TIME: 08:43:02

Input Set : A:\21571P SEQLIST.TXT

Output Set: N:\CRF4\10032006\J594064.raw

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107          325          330          335
108 Thr Val Val Asp Thr Thr Arg Ser Thr Asn Met Thr Leu Cys Ala Glu
109          340          345          350
110 Val Lys Lys Glu Ser Thr Tyr Lys Asn Glu Asn Phe Lys Glu Tyr Leu
111          355          360          365
112 Arg His Gly Glu Glu Phe Asp Leu Gln Phe Ile Phe Gln Leu Cys Lys
113          370          375          380
114 Ile Thr Leu Thr Ala Asp Val Met Thr Tyr Ile His Lys Met Asp Ala
115 385          390          395          400
116 Thr Ile Leu Glu Asp Trp Gln Phe Gly Leu Thr Pro Pro Pro Ser Ala
117          405          410          415
118 Ser Leu Glu Asp Thr Tyr Arg Phe Val Thr Ser Thr Ala Ile Thr Cys
119          420          425          430
120 Gln Lys Asn Thr Pro Pro Lys Gly Lys Glu Asp Pro Leu Lys Asp Tyr
121          435          440          445
122 Met Phe Trp Glu Val Asp Leu Lys Glu Lys Phe Ser Ala Asp Leu Asp
123          450          455          460
124 Gln Phe Pro Leu Gly Arg Lys Phe Leu Leu Gln Ala Gly Leu Gln Ala
125 465          470          475          480
126 Arg Pro Lys Leu Lys Arg Pro Ala Ser Ser Ala Pro Arg Thr Ser Thr
127          485          490          495
128 Lys Lys Lys Lys Val Lys Arg
129          500
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134 <212> TYPE: DNA
135 <213> ORGANISM: Human Papillomavirus Type 52
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140 cgattactaa cagtaggaca tccctathtt tctattaaaa acaccagtag tggtaatggt 180
141 aaaaaagttt tagttcccaa ggtgtctggc ctgcaataca gggtathtag aattaaattg 240
142 ccggacccta ataaatttgg ttttccagat acatcttttt ataaccaga aacccaaagg 300
143 ttggtgtggg cctgtacagg cttggaaatt ggtaggggac agcctttagg tgtgggtatt 360
144 agtgggcatc ctttattaaa caagtttgat gatactgaaa ccagtaacaa atatgctggt 420
145 aaacctggta tagataatag ggaatgttta tctatggatt ataagcagac tcagttatgc 480
146 attttaggat gcaaacctcc tatagggtgaa cattggggta agggaacccc ttgtaataat 540
147 aattcaggaa atcctgggga ttgtcctccc ctacagctca ttaacagtgt aatacaggat 600
148 ggggacatgg tagatacagg atttgggtgc atggatttta ataccttgca agctagtaaa 660
149 agtgatgtgc ccattgatat atgtagcagt gtatgtaagt atccagatta tttgcaaattg 720
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153 agtggttcta tggtaacctc agaatcccaa ttatttaata aaccgtactg gttacaacgt 960
154 gcgcagggcc acaataatgg catatgttgg ggcaatcagt tgtttgtcac agttgtggat 1020
155 accactcgta gcactaacat gactttatgt gctgagggtta aaaaggaaag cacatataaa 1080
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DATE: 10/03/2006

PATENT APPLICATION: US/10/594,064

TIME: 08:43:02

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159 acatacagat ttgtcacttc tactgctata acttgtcaaa aaaacacgcc acctaaagga 1320
160 aaggaagatc ctttaaagga ctatatgttt tgggaggtgg attttaaaga aaagttttct 1380
161 gcagatthtag atcagthttcc tttaggtagg aagthttttgt tacaggcagg gctacaggct 1440
162 aggcccaaac taaaacgccc tgcctcatcg gcccacgta cctccacaaa gaagaaaaag 1500
163 gttaaaaggt aa 1512
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168 <213> ORGANISM: Artificial Sequence
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171 <223> OTHER INFORMATION: PCR Primer
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201 <213> ORGANISM: Artificial Sequence
203 <220> FEATURE:
204 <223> OTHER INFORMATION: 52L1R antisense
206 <400> SEQUENCE: 7
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209 tctaacaact gacagccagt gggatatgaag agatagttct tgtggaggag gccattgcca 180
210 ttcttccaga accaaggtht ccagagacca aacgttatgt ctcagaagtc ttagttcaac 240
211 ggtctgggtt tgttcaagcc aaagggtctg tgatcaaaga tgttgggtct ttgagtttct 300
212 aaccagaccc gaacatgacc aaacctthtag ccatctccag ttggtaaccc acagccatag 360
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214 ttcggtccat agctattgtc tcttacaac agatacctga tgttcgthtg agttaacaca 480
215 tagaacccaa cattcggtgg ttagccactt gtgaccccat tcccatgagg tacattgttg 540
216 ttgagacatc tgggtccact gacaggtggg aacgttaact agttgaggca gtaggttctg 600
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RAW SEQUENCE LISTING

DATE: 10/03/2006

PATENT APPLICATION: US/10/594,064

TIME: 08:43:02

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220 tctgtgaaga agttgtctcg accatggaac ccactgggtc aaggccact gaacatgtag 840
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VERIFICATION SUMMARY

DATE: 10/03/2006

PATENT APPLICATION: US/10/594,064

TIME: 08:43:03

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L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date